

ABSTRACT OF THE DISCLOSURE

A signal processor for use in an electronic compass for controlling an offset voltage generated in an analog signal process and automatically controlling an amplification gain.

5 In the signal processor, an analog signal processor 52 amplifies signals Sx and Sy, and controls an offset voltage and amplitude A generated during an amplification process. An analog/digital (AD) converter 53 converts analog signals Vadcx

10 and Vadcy from the analog signal processor 52 into a digital signal. A digital signal processor 54 measures a maximum value V_{adc_max} and a minimum value V_{adc_min} associated with the digital signal from the AD converter 53, and outputs, to the analog signal processor 52, the offset control signal Soc and the

15 gain control signal Sgc based on the maximum value V_{adc_max} and minimum value V_{adc_min} . The signal processor can maintain levels of signals, to be inputted into the AD converter, to be within a reference voltage range.